UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,393	11/29/2000	Arnab Das	3-9-56	9723

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EXAMINER
MYERS, PAUL R

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/725,393	DAS ET AL.
	Examiner	Art Unit	
	Paul R. Myers	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12 October 2004*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-14 and 16-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-14 and 16-23* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 10/12/04 have been fully considered but they are not

persuasive.

In response to applicant's argument that the references fail to show certain features of

applicant's invention, it is noted that the features upon which applicant relies (i.e., that land line

networks do not have channel condition concerns as do wireless data networks) are not recited in

the rejected claim(s). Although the claims are interpreted in light of the specification, limitations

from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). There is nothing in the claim language that states the network

needs to be wireless.

It is clear that the claim language needs to be analyzed. Applicants claim "channel

coding an encoder packet to produce a channel coded encoder packet". The word channel is

defined as: "a path along which signals can be sent" (from Dictionary of Computers,

information processing & telecommunications.). The word encode is synonymous to code which

is defined as: "a set of unambiguous rules specifying the manner in which data may be

represented in a discrete form." This can be as basic as the rule that sets a logic 1 to 5 volts and a

logic 0 to 0 volts for transmission. And a packet is defined as: "a sequence of binary digits

including data and call control signals that is switched as a composite whole." Thus all that is

claimed is preparing a packet for transmission over a path. The examiner notes any system in

existence that handles packets does this.

In regards to applicants argument that Bruckman does not teach a first data transmission rate which is based upon measured channel conditions that are measured at the front end or any other end of Bruckman: Bruckman expressly states in paragraph 0010 "In preferred embodiments of the present invention, transmitter receives datagrams for transmission over a network channel to a receiver. In the context of the present patent application and in the claims, the term "datagram" is used to refer to any block of data with a predefined destination in the network, including (but not limited to) data packets and frames. The transmitter divides the datagram into fragments, whose size is determined dynamically by the transmitter depending on network conditions and constraints. The fragment length can thus increase automatically with increasing data rate, without reprogramming by an operator, unlike variable-length fragmentation systems known in the art.". The examiner from rereading this passage notes the applicants may be correct that the channel conditions might not be measured at the transmitter and may instead come from the receiver. Bruckman is actually silent as to where the channel conditions are determined. Applicants admitted prior art is used for teaching that channel conditions are measured at the receiver.

In regards to applicants misunderstanding of the term fragment. Bruckman teaches fragmenting a packet into sub-packets. This means they are broken into sub-packets. This has absolutely no connection to applicants incorrect interpretation that there is some type of erasure. The fact that Bruckman fragments the packets into sub-packets should be clear from both Bruckman and the examiners rejection.

In regards to applicants argument that Tiedemann does not teach a transmitter selecting a transmission rate that is different from and based upon a desired maximum: This is clearly

incorrect Tiedemann teaches "Remote station 6 can also transmit a requested transmission rate to

the cell. The requested transmission rate can be based on the queue size which is indicative of

the amount of data to be transmitted, the total transmit power available to remote station 6, the

predicted transmit energy-per-bit required for the upcoming scheduling period, and the backoff

power of remote station 6. The requested transmission rate represents the maximum

transmission rate which remote station 6 can support. This value is derived in detail below.

Channel scheduler 12 can also recommend a preferred transmission rate based on the amount of

data, as measured by the queue size, to be transmitted by the scheduled user at step 222. The

preferred transmission rate can also be made a function of the transmit power available to remote

station 6, if this information is available to channel scheduler 12. In the exemplary embodiment,

the queue size and the transmit power available to remote station 6 are sent from remote station 6

to channel scheduler 12 at the start of each scheduling period. The preferred transmission rate is

selected to be at or below the transmission rate required to transmit the data in the queue within

the scheduling interval." Thus Tiedemann's receiver (the remote station 6) transmits a

transmission rate request to the channel scheduler which selects the preferred transmission rate

based upon this request. This rate is at or below the requested transmission rate. In the case

that it is below the requested transmission rate it is both based upon and different from the

requested transmission rate.

In response to applicant's arguments against the references individually, one cannot show

nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re
Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-5, 14, and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bruckman PN 2002/0051466 in view of Applicants admitted prior art and Tiedemann, Jr. et al

PN 5,914,950.

In regards to claims 1, 2, 14, 16, 18, 20-21 and 23: Bruckman teaches channel coding

packets to produce channel coded packets (See abstract); and puncturing (fragmenting) and/or

repeating (transmitting) the channel coded packets to produce a first sub-packet (fragment)

having a first size based on a size of the packet and a first data transmission rate at which the first

sub-packet is to be transmitted (See abstract and paragraph 0026). Bruckman teaches the

dynamic transmission rate control above. Bruckman et al also teaches the first data transmission

rate is based on first measured channel conditions however these conditions are measured at the

front end not the receiver. Applicants admitted prior art teaches using measuring channel

conditions at the receiver and transmitting either the channel conditions or the desired

transmission rate based upon the channel conditions to the transmitter. (see page 1 lines 26-32).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to

use the receiver condition measurements because this would have allowed for considering the

entire channel not just a small part. Tiedemann, Jr. et al teaches the transmitter selection a

transmission rate that is different from and based upon the desired maximum transmission rate of

the receiver (Column 11 lines 43-64). It would have been obvious to use a data transmission rate

that is different from and based upon the desired maximum transmission rate of the receiver

because this would have taken into account factors such as power requirements and other

transmitters (see Tiedemann, Jr. et al Column 11 lines 43-64)

In regards to claim 3: Bruckman et al teaches recombining the sub-packets (by

reassembler 34).

In regards to claims 4-5: Bruckman et al teaches the size of each fragment being

individually determined and the size being variable within a range since packets are digital the

sizes have only a discrete number of possibilities. Thus Bruckman et al teaches both the

fragments being different sizes and the fragments being of the same sizes.

In regards to claims 17, 19 and 22: applicants admitted prior art teaches the use of a

NACK message.

4.   Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman

PN 2002/0051466 in view of applicants admitted prior art and Tiedemann, Jr. et al PN 5,914,950

as applied to claim 1 above, and further in view of Buchholz et al PN 5,337,313.

In regards to claims 6-7: Bruckman teaches the dynamic packet size and rate as

described above. Bruckman teaches adding a packet start and a packet end in accordance with

the FRF.12 protocol instead of adding a packet size identifier. Bruckman states that while the

invention is described in conjunction with the FRF.12 protocol it is not to be limited to that

protocol. Bruckman also gives an example of the ATM protocol which includes a five-byte

header but does not give details of the header information. Buchholz et al teaches a packet

reassembly header (406) that includes a packet length field (660). It would have been obvious to

a person of ordinary skill in the art at the time of the invention to include a packer size identifier

because this would have allowed for the receiver front end to handle packet reassembly more

efficiently.

In regards to claims 8 and 12: Bruckman teaches transmitting the fragments based upon

their individual transmission rates however Bruckman does not expressly teach modulating the

data. Official notice is taken that modulating data to transmit data is well known. For example

Modems which stand for Modulator/demodulator. It would have been obvious to modulate the

data because this would have allowed for the use of standard modems which have the advantage

of having good resistance to noise on the wire.

In regards to claims 9 and 13: Bruckman stares that it is not required to inform the

receiver of the transmission rate however it is advantageous to provide the rate information to the

receiver/reassembler paragraph 0027.

In regards to claims 10-11: Buchholz et al teaches a protocol field that indicate the

packet protocol.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

PN 4504944 to Johannes teaches returning the received data rate for each channel.

PN 2002/0009061 to Willenegger teaches a data rate feedback.

PN 6,088,385 to Liu teaches a data rate feedback.

PN 6,694,469 to Jalali et al teaches using a feedback signal from the receiver to

determine the data transmission rate.

PN 5,574,979 to West teaches fragmenting data into multiple data rates based upon a

feedback signal from the receiver(s).

PN 6,298,092 to Heath, Jr. et al teaches the desired data rate at a receiver determines a

feedback signal to the transmitter that is used to select the actual data transmission

rate.

PN 5,682,379 to Mahany et al teaches the receiver selecting the data transmission rate.

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The

examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PAUL R. MYERS
PRIMARY EXAMINER

PRM
July 8, 2004